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Bmcdl. wherein said charge draining means includes a logic gate,
and a conductor carrying an analogue voltage level.

B2 3r. (Amended) The imaging device of Claim [3] & wherein
each image element further includes an amplifier providing an
output signal indicative of charge stored in said charge storage
means.

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BCont. 5 s. (Amended) An imaging device comprising:
a semiconductor substrate;
plural light-responsive image elements defined in an array
on said substrate;

5 and means for randomly accessing said image elements
individually or in groups of less than the full plurality of
elements on said array;

10 wherein said random image element accessing means includes
a plurality of first and a plurality of second conductors
traversing said array, each individual image element or group of
image elements being associated with a respective one of said
plurality of first conductors and a respective one of said
plurality of second conductors;

15 wherein said image elements each include means for
photovoltaically producing an electrical charge in response to
incident light, and storage means for storing said charge at said
image element; and [The imaging device of Claim 3]

20 wherein said photovoltaic means includes a junction
photodiode, said photodiode including a semiconductor substrate
and a metallic film forming a metallic interface with said
substrate, said metallic film having electrical connection with
said charge storage means, and said substrate having electrical
connection with a source of analogue voltage allowing excess
charge to spill from said photodiode into said substrate and to
said source of analogue voltage, whereby intense light incident
upon said photodiode causes excess charge to spill into said
substrate without significant effect of said excess charge upon
said charge storage means of adjacent image elements in said
array.

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10. (Amended) The imaging device of Claim [3] ⁵ further including a pair of decoders and a pair of associated latches, each decoder and associated latch of said pair of associated decoders and latches respectively being associated with one of said plurality of first conductors and with one of said plurality of second conductors, whereby said individual image elements or groups of image elements may be accessed by supplying a particular address to each of said pair of decoders.

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16. (Amended) The imaging device of Claim [3] ⁵ further including second means for storing said charge at said image element, and switch means for selectively closing and opening connection between said first-recited charge storage means and said second charge storage means.

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18. (Amended) The imaging device of Claim [1] ⁶ further including a control cache memory for receiving control commands for said image elements at a high rate, for holding said control commands, and for providing said control commands to said image elements at a slower rate on a first-in, first-out basis.

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26. (Amended) A method of providing an image of a scene, said method comprising the steps of:

providing an image element including a photovoltaic element which provides electric charge in response to light flux incident thereon,

storing electric charge from said photovoltaic element at said image element, and

connecting said stored charge to an output device only in response to an interrogation signal to said image element;

10 further including the steps of providing an output amplifier at said image element as part of said output device; and [The method of Claim 35]

15 wherein said step of providing said output amplifier includes providing a transistor at said image element, and using said stored charge to control an output voltage signal by controlling conductance of said transistor.

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¹⁹~~40~~. (Amended) The method of Claim [34] ¹⁵~~36~~ further including the steps of providing a switch connecting said stored charge to a reference voltage level, and closing said switch momentarily to reset said image element.

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5 ²¹~~42~~. (Amended) The method of Claim [34] ¹⁵~~36~~ including the further steps of providing an array of plural image elements each substantially identical with said first-recited image element, and providing said interrogation signal only to selected ones of said image elements in said array.

5 ²⁷~~43~~. (Amended) The method of Claim [34] ¹⁵~~36~~ including the further steps of providing an array of plural image elements each substantially identical with said first-recited image element, and simultaneously storing charge at each of said plural image elements to provide a snap shot of said scene.

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²⁴~~45~~. (Amended) The method of Claim [34] ¹⁵~~36~~ further including the step of using a processor to provide said interrogation signal to said image element.

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5 ²⁷~~47~~. (Amended) The method of Claim [34] ¹⁵~~36~~ further including defining said photovoltaic element on a semiconductor substrate, providing a conductor traversing said substrate proximate to said photovoltaic element, carrying a reference voltage level on said conductor, and using said conductor to collect excess charge spilling from said image element in response to an excessive level of light flux incident thereon, thereby to prevent said photovoltaic element from spilling excess charge across said substrate.

Remarks

The Examiner will note from the above corrections to the specification, that corrections effected in the parent application are also made here. Accordingly, the specification of the present application is now thought to be in proper form for allowance.